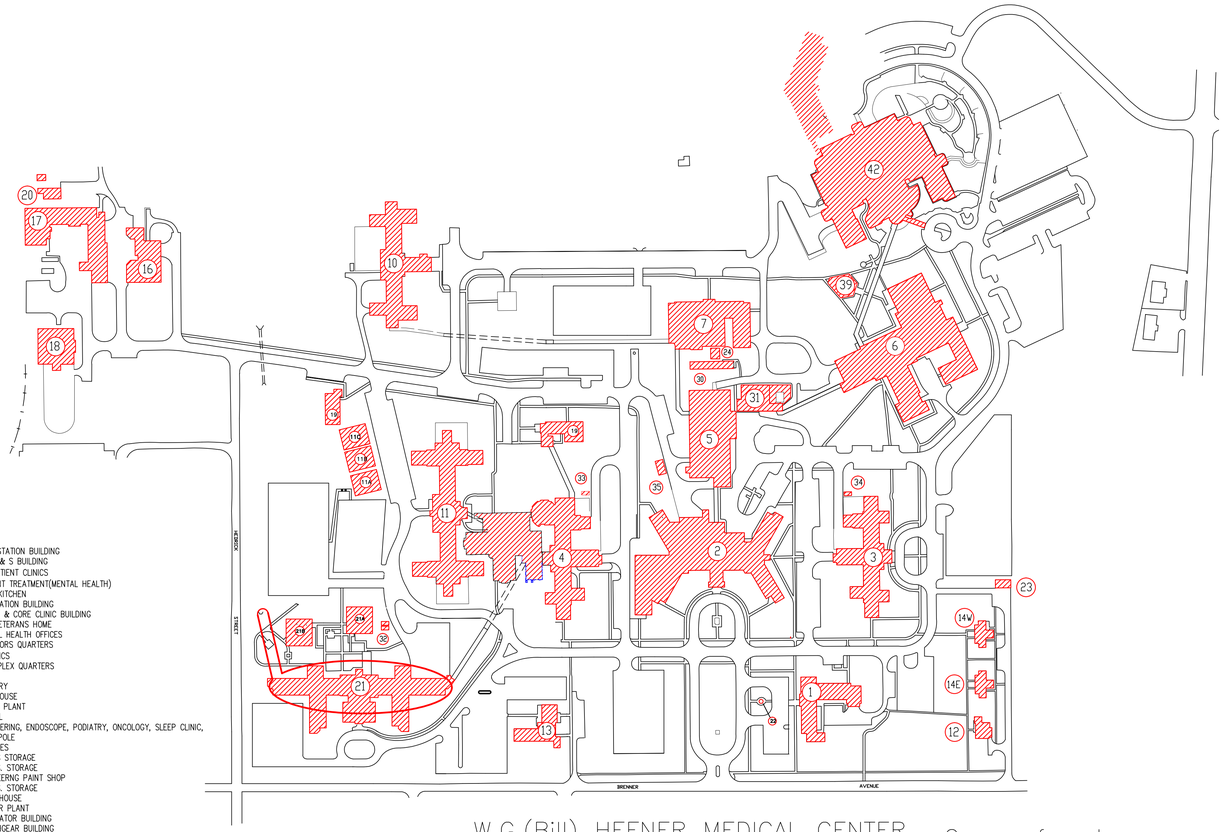
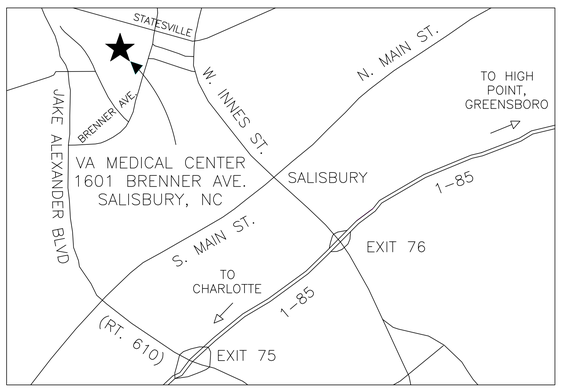
DEPARTMENT OF VETERANS AFFAIRS
BUILDING 21 CRAWL SPACE MOLD PREVENTION



BUILDINGS
1. ADMINSTATION BUILDING
2. C. M. & S BUILDING
3. OUTPATIENT CLINICS
4. PATIENT TREATMENT(MENTAL HEALTH)
5. MAIN KITCHEN
6. RECREATION BUILDING
7. R.M.S & CORE CLINIC BUILDING
10. N.C. VETERANS HOME
11. MENTAL HEALTH OFFICES
12. DIRECTORS QUARTERS
13. LOGISTICS
14E&W DUPLEX QUARTERS
15. VISIN
16. LAUNDRY
17. WAREHOUSE
18. BOILER PLANT
19. CHAPEL
21. ENGINEERING, ENDOSCOPE, PODIATRY, ONCOLOGY, SLEEP CLINIC,
22. FLAG POLE
23. GARAGES
24. R.M.&S STORAGE
25. R.M.&S. STORAGE
28. ENGINEERNG PAINT SHOP
29. R.M.&S. STORAGE
30. GREENHOUSE
31. CHILLER PLANT
32. GENERATOR BUILDING
33. SWITCHGEAR BUILDING
34. GENERATOR BUILDING
35. GENERATOR BUILDING
36. GENERATOR BUILDING
37. GENERATOR BUILDING
38. GENERATOR BUILDING
39. PICNIC SHELTER
40. GROUNDS STORAGE SHELTER
41. NCA SHELTER
42. GEROPSYCHIATRIC BUILDING

W.G.(Bill) HEFNER MEDICAL CENTER
SALISBURY, NORTH CAROLINA



Scope of work

Contractor shall completely prepare site for operations, furnish labor, and materials to perform work for the Building 21 Crawl space as required by drawings and specifications. Remove debris from crawl space, Grade earth in space so that water flows toward the west side of the crawl space to the drain pit locations, and from the west side to the pit location. Install interior drains, provided sump pumps, seal the crawl space, Install liner, and install provided dehumidifying system. Install electrical components, and insulate outer walls of crawl space.

The contractor shall install an interior French drain with a 4 inch perforated corrugated pipe wrapped in silk screening material and protected with a gravel bed. The pipe will generally be placed 12 to 18 inches off the footer so as not to disrupt any termite treatment field the drain will average 10 inches wide and 12 inches deep.

The contractor shall dig twelve (12) 24–36 inch deep by 6 feet in diameter sump pits per drawing, and grading the earth in the crawl space from the outer walls to the sump pits. The drain system will be tied into the 12 different sump pits. These pits with will consist of a perforated polyethylene liner installed in the hole surrounded by crushed stone with a solid cover including a drain for any surface water that may come from above. A 1/3 hp sump pump, with a check valve and 1 1/2 inch PVC discharge pipe will take all the channeled water and pump it out of the crawlspace through an drain pipe and away from the foundation.

There will be cut through the foundation wall a hole large enough for an 18" pipe to exit the building. The sump pumps will be piped to this location by drawing and will be attached and sealed into an 18 inch double walled pipe that will be extended to the storm water ditch located south west of the building by the existing city discharge culvert.

Each unit can pump 5000 gallons per hour with the system total of 60,000 gallons per hour.

The contractor is to install a 42 space 225 amp breaker panel in the basement area by crawl space the power is to be ran from room BC–116 the contractor shall find and procure a suitable 300 amp breaker for the switch gear and install The contractor shall make the connection according NEC in conduit and copper wire. From equipment to the breaker panel the contractor shall use solid number 12 THHN copper wire to each sump pump and dehumidifier in crawlspace of building 21. The wire will be encased in three–quarter inch EMT pipe with compression fittings installation and will include hangers and breakers were necessary according to the NEC. This will be connected to the new power panel in the basement adjacent to the crawl space.

The contractor is to install eight (8) commercial Santa Fe Max Dry Dual XT and dehumidifiers Provided by the VA. To ensure optimal performance, the air inlet and the outlet of the unit will be at least 1 inch from walls and other obstacles to airflow. They will be placed on for anti–vibration steel spring tight suspension mounts with four per unit. The condensate drains shall be attached in a manner to allow water to flow away from the unit by gravity via the drain port. Three–quarter inch PVC drainage pipe to the sump pits from each Santa Fe dehumidifier.

Each Santa Fe dehumidifier can extract up to 150 pints of moisture per day total system moisture extraction up to 75 gallons a day.

The contractor will have Bora–care with Mold–care dilution applied to the insulation covering the water piping in crawlspace where moisture has discolored it over time.

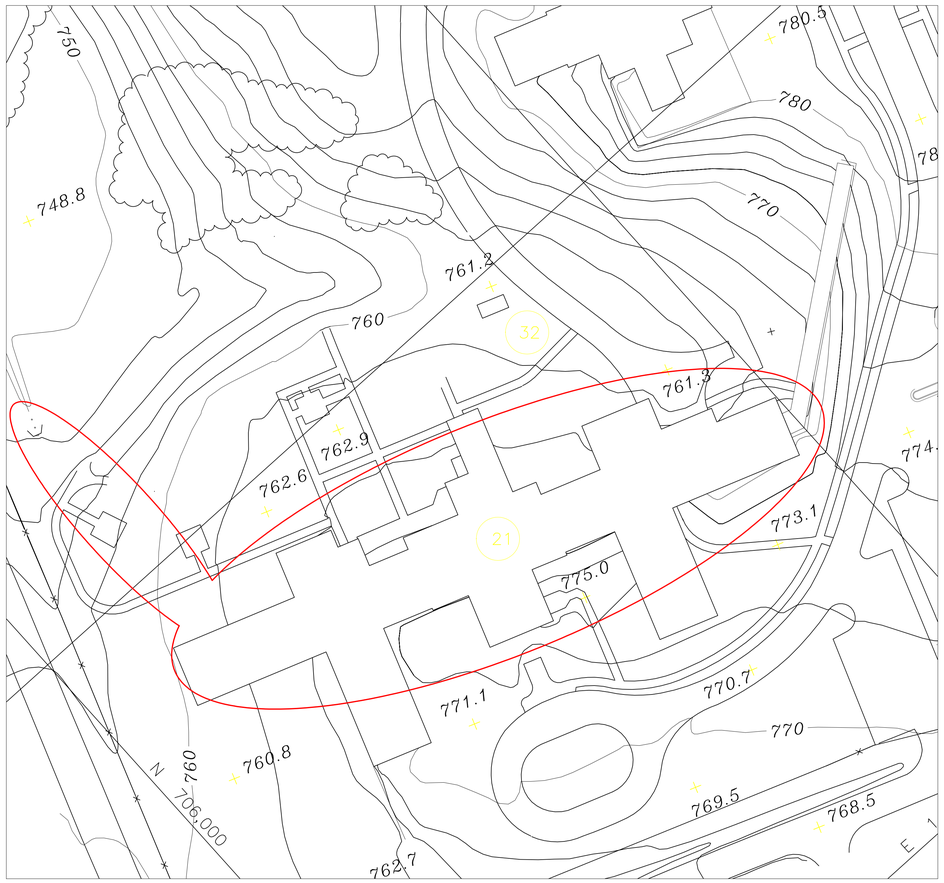
The contractor is to install 6 mm three layer laminated polyethylene wall liner paper retarded along the length of the interior foundation wall seal at top of foundation wall and bottom 24 liners rap peers with six mill three playa polyethylene liner. Fasten 1 1/2 inch Dowel Thermax insulation board to all exterior masonry wall over wall liner. Apply foam insulation to seal all penetrations from crawlspace to living area. Install 12 mm three ply polyethylene for liner to soil to climate control areas of crawlspace. Tape liner to wall and all peer liners and insulate before installation. Seal all joints with 4 inch adhesive tape.

Liner and insulate will close crawlspace to outside air to create conditioned air environment to control humidity levels throughout crawlspace to promote clean and healthy air in the living area and working areas above.

Crawlspace humidity levels shall be centrally monitored. Panel is to be mounted in basement near new electrical panel.

The contractor is to provide the Monitoring device The Santa Fe # 4026208 or equivalent.

The contractor is to remove all construction debris from the crawlspace and disp[ose of according to all applicable laws.



Revision	Date

RECOMMEND APPROVAL

REQUESTER	Date		
CHIEF OF SERVICE	Date	CHIEF OF STAFF	Date
ASSOC. DIR. PATIENT CARE SVC.	Date	ASSOC. DIR. for OPERATIONS	Date
APPROVAL BY: MEDICAL CENTER DIRECTOR			Date

Drawing Title: COVER SHEET

Approved: Safety Manager/M&O Supervisor

Approved:Chief of Facilities Management Svr.

Project Title: BUILDING 21 CRAWL SPACE DRYING PROJECT

Building Number: 21 | Checked | Drawn: NEJ

Location: W.G.(Bill) Hefner Medical Center, 1601 Brenner Ave., Salisbury NC 28144

Date: 24 Jul 2012

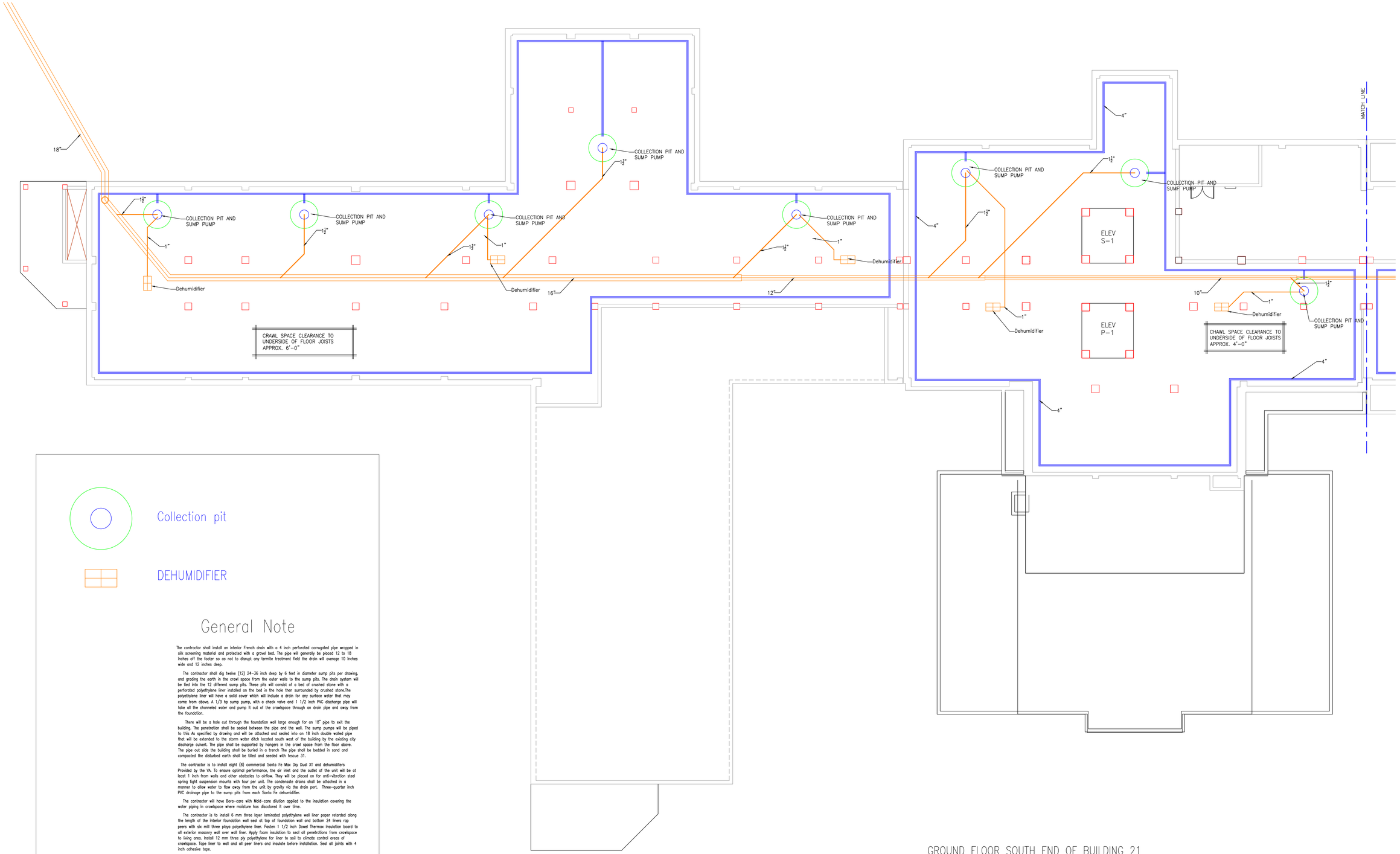
Project No.: 659–12–240 D/B

DRAWING NO. G–000

DWG. 1 OF 4

Office of Facilities

Department of Veterans Affairs



Collection pit

DEHUMIDIFIER

General Note

The contractor shall install an interior French drain with a 4 inch perforated corrugated pipe wrapped in silk screening material and protected with a gravel bed. The pipe will generally be placed 12 to 18 inches off the footer so as not to disrupt any termite treatment field the drain will average 10 inches wide and 12 inches deep.

The contractor shall dig twelve (12) 24-36 inch deep by 6 feet in diameter sump pits per drawing, and grading the earth in the crawl space from the outer walls to the sump pits. The drain system will be tied into the 12 different sump pits. These pits will consist of a bed of crushed stone with a perforated polyethylene liner installed on the bed in the hole then surrounded by crushed stone.The polyethylene liner will have a solid cover which will include a drain for any surface water that may come from above. A 1/3 hp sump pump, with a check valve and 1 1/2 inch PVC discharge pipe will take all the channeled water and pump it out of the crawlspace through an drain pipe and away from the foundation.

There will be a hole cut through the foundation wall large enough for an 18" pipe to exit the building. The penetration shall be sealed between the pipe and the wall. The sump pumps will be piped to this As specified by drawing and will be attached and sealed into an 18 inch double walled pipe that will be extended to the storm water ditch located south west of the building by the existing city discharge culvert. The pipe shall be supported by hangers in the crawl space from the floor above. The pipe out side the building shall be buried in a trench The pipe shall be bedded in sand and compacted the disturbed earth shall be tilled and seeded with fescue 31.

The contractor is to install eight (8) commercial Santa Fe Max Dry Dual XT and dehumidifiers Provided by the VA. To ensure optimal performance, the air inlet and the outlet of the unit will be at least 1 inch from walls and other obstacles to airflow. They will be placed on for anti-vibration steel spring tight suspension mounts with four per unit. The condensate drains shall be attached in a manner to allow water to flow away from the unit by gravity via the drain port. Three-quarter inch PVC drainage pipe to the sump pits from each Santa Fe dehumidifier.

The contractor will have Bora-care with Mold-care dilution applied to the insulation covering the water piping in crawlspace where moisture has discolored it over time.

The contractor is to install 6 mm three layer laminated polyethylene wall liner paper retarded along the length of the interior foundation wall seal at top of foundation wall and bottom 24 liners rap peers with six mill three playo polyethylene liner. Fasten 1 1/2 inch Dowel Thermax insulation board to all exterior masonry wall over wall liner. Apply foam insulation to seal all penetrations from crawlspace to living area. Install 12 mm three ply polyethylene for liner to soil to climate control areas of crawlspace. Tape liner to wall and all peer liners and insulate before installation. Seal all joints with 4 inch adhesive tape.

The contractor is to provide the Monitoring device The Santa Fe # 402620B or equivalent.

GROUND FLOOR SOUTH END OF BUILDING 21

SOUTH END OF BUILDING 21
1/8" =1'

Revision	Date

RECOMMEND APPROVAL

REQUESTER	Date		
CHIEF OF SERVICE	Date	CHIEF OF STAFF	Date
ASSOC. DIR. PATIENT CARE SVC.	Date	ASSOC. DIR. for OPERATIONS	Date
APPROVAL BY: MEDICAL CENTER DIRECTOR			Date

Drawing Title: SOUTH CRAWL SPACE EQUIPMENT PLACEMENT

Approved: Safety Manager/M&O Supervisor

Approved:Chief of Facilities Management Svr.

Project Title: BUILDING 21 CRAWL SPACE DRYING PROJECT

Building Number: 21 | Checked | Drawn: NEJ

Location: W.G.(Bill) Hefner Medical Center, 1601 Brenner Ave. Salisbury NC 28144

Date: 24 Jul 2012

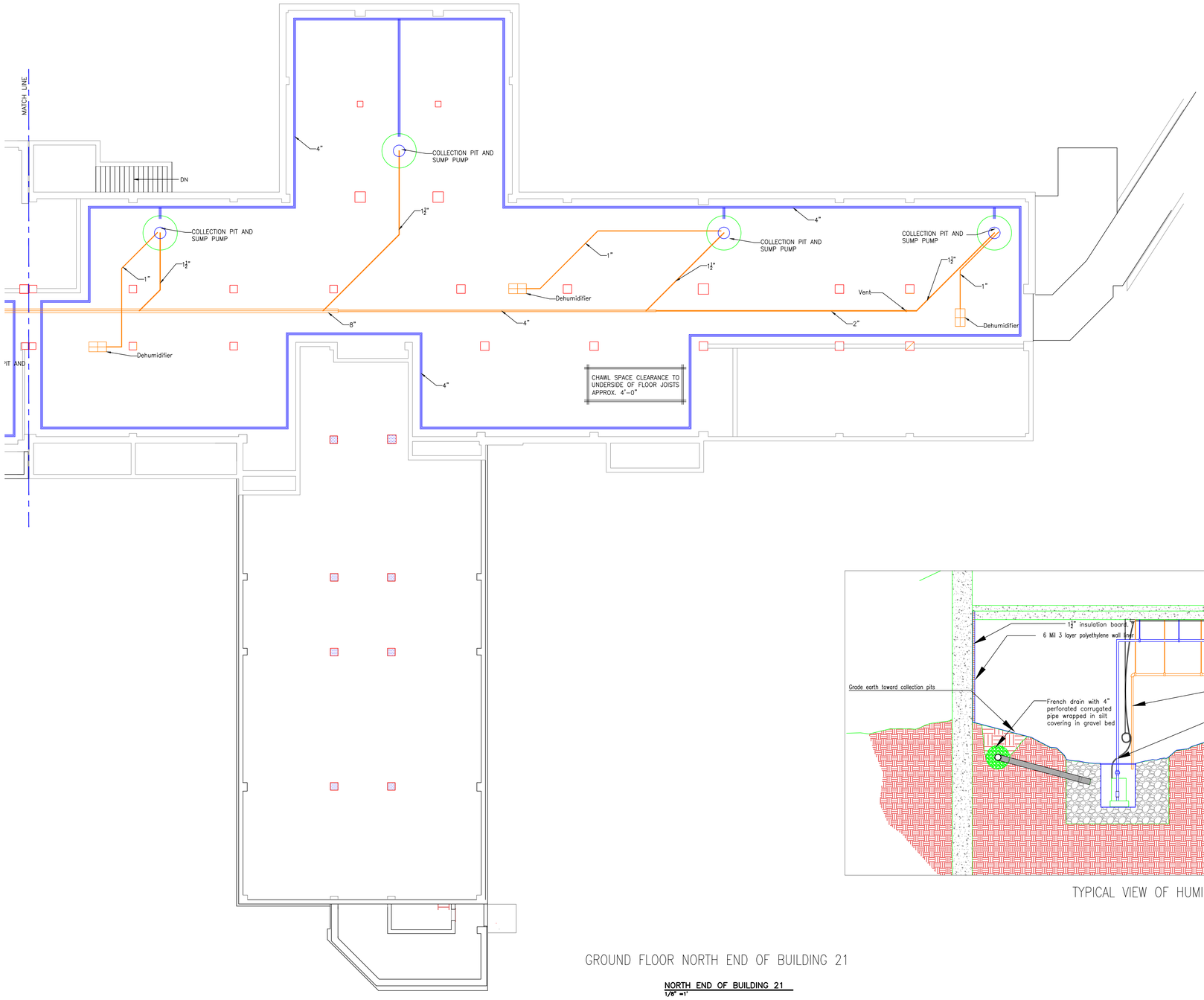
Project No.: 659-12-240 D/B

DRAWING NO.: M-100

DWG. 2 OF 4

Office of Facilities

Department of Veterans Affairs



GROUND FLOOR NORTH END OF BUILDING 21

NORTH END OF BUILDING 21
1/8" =1'

General Note

The contractor shall install an interior French drain with a 4 inch perforated corrugated pipe wrapped in silk screening material and protected with a gravel bed. The pipe will generally be placed 12 to 18 inches off the footer so as not to disrupt any termite treatment field the drain will average 10 inches wide and 12 inches deep.

The contractor shall dig twelve (12) 24-36 inch deep by 6 feet in diameter sump pits per drawing, and grading the earth in the crawl space from the outer walls to the sump pits. The drain system will be tied into the 12 different sump pits. These pits will consist of a bed of crushed stone with a perforated polyethylene liner installed on the bed in the hole then surrounded by crushed stone.The polyethylene liner will have a solid cover which will include a drain for any surface water that may come from above. A 1/3 hp sump pump, with a check valve and 1 1/2 inch PVC discharge pipe will take all the channeled water and pump it out of the crawlspace through an drain pipe and away from the foundation.

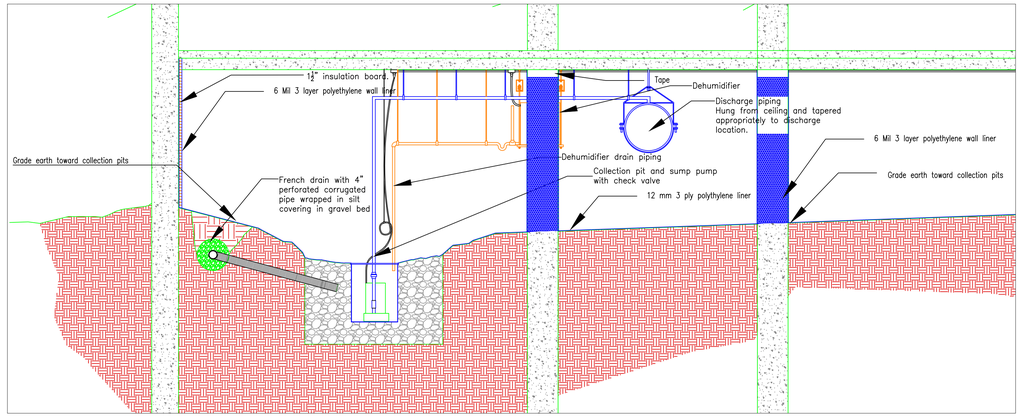
There will be a hole cut through the foundation wall large enough for an 18" pipe to exit the building. The penetration shall be sealed between the pipe and the wall. The sump pumps will be piped to this As specified by drawing and will be attached and sealed into an 18 inch double walled pipe that will be extended to the storm water ditch located south west of the building by the existing city discharge culvert. The pipe shall be supported by hangers in the crawl space from the floor above. The pipe out side the building shall be buried in a trench The pipe shall be bedded in sand and compacted the disturbed earth shall be tilled and seeded with fescue 31.

The contractor is to install eight (8) commercial Santa Fe Max Dry Dual XT and dehumidifiers Provided by the VA. To ensure optimal performance, the air inlet and the outlet of the unit will be at least 1 inch from walls and other obstacles to airflow. They will be placed on for anti-vibration steel spring tight suspension mounts with four per unit. The condensate drains shall be attached in a manner to allow water to flow away from the unit by gravity via the drain port. Three-quarter inch PVC drainage pipe to the sump pits from each Santa Fe dehumidifier.

The contractor will have Boro-care with Mold-care dilution applied to the insulation covering the water piping in crawlspace where moisture has discolored it over time.

The contractor is to install 6 mm three layer laminated polyethylene wall liner paper retarded along the length of the interior foundation wall seal at top of foundation wall and bottom 24 liners rap peers with six mill three playa polyethylene liner. Fasten 1 1/2 inch Dowel Thermax insulation board to all exterior masonry wall over wall liner. Apply foam insulation to seal all penetrations from crawlspace to living area. Install 12 mm three ply polyethylene for liner to soil to climate control areas of crawlspace. Tape liner to wall and all peer liners and insulate before installation. Seal all joints with 4 inch adhesive tape.

The contractor is to provide the Monitoring device The Santa Fe # 4026208 or equivalent.



TYPICAL VIEW OF HUMIDITY CONTROL SYSTEM FOR 21

Revision	Date

RECOMMEND APPROVAL

REQUESTER	Date		
CHIEF OF SERVICE	Date	CHIEF OF STAFF	Date
ASSOC. DIR. PATIENT CARE SVC.	Date	ASSOC. DIR. for OPERATIONS	Date
APPROVAL BY: MEDICAL CENTER DIRECTOR			Date

Drawing Title: NORTH CRAWL SPACE

Approved: Safety Manager/M&O Supervisor

Approved:Chief of Facilities Management Svr.

Project Title: BUILDING 21 CRAWL SPACE DRYING PROJECT

Building Number: 21 | Checked | Drawn: NEJ

Location: W.G.(Bill) Hefner Medical Center 1601 Brenner Ave. Salisbury NC 28144

Date: 24 Jul 2012

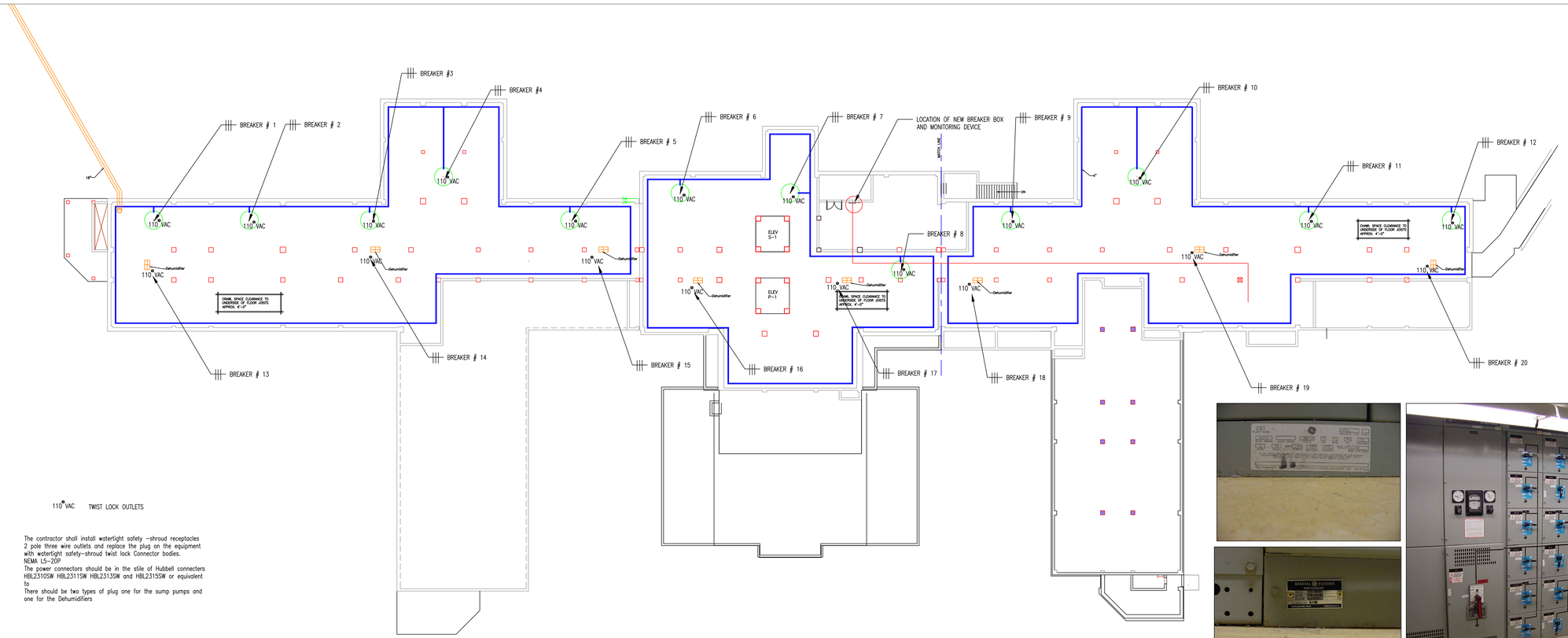
Project No. 659-12-240 D/B

DRAWING NO. M-101

DWG. 3 OF 4

Office of Facilities

Department of Veterans Affairs



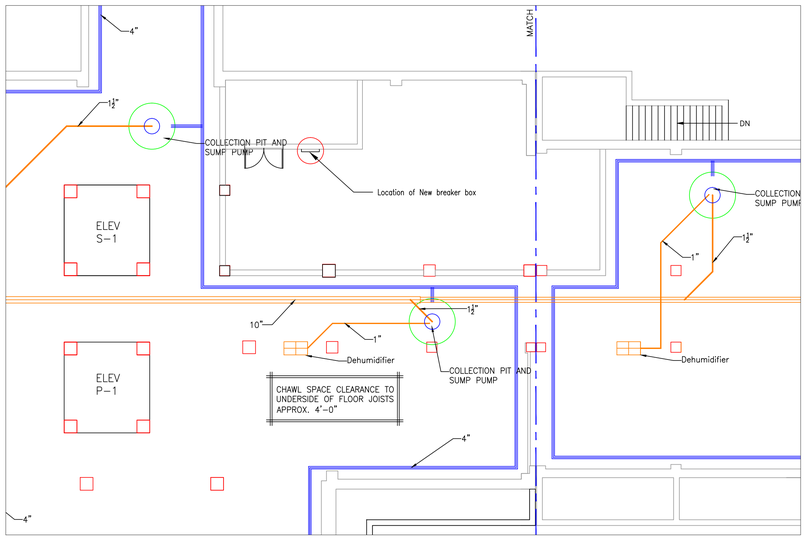
110 VAC TWIST LOCK OUTLETS

The contractor shall install watertight safety –shroud receptacles 2 pole three wire outlets and replace the plug on the equipment with watertight safety–shroud twist lock Connector bodies. NEMA L5–20P
The power connectors should be in the stile of Hubbell connecters HBL2310SW HBL2311SW HBL2313SW and HBL2315SW or equivalent to
There should be two types of plug one for the sump pumps and one for the Dehumidifiers

CRAWL SPACE BUILDING 21 ELECTRICAL
1/16" =1'

Main switch gear in room BC 116

CRAWL SPACE BUILDING 21 BREAKER BOX ADDITION

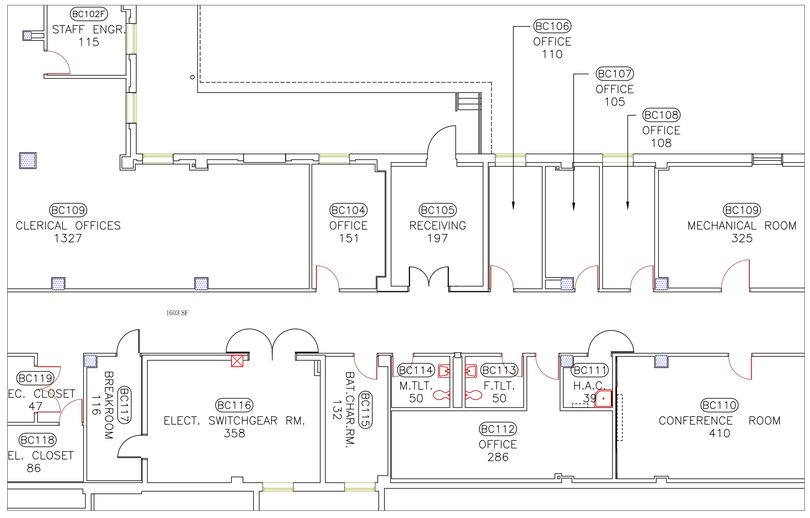


SUB–BASEMENT MECHANICAL ROOM / CRAWL SPACE BUILDING 21

The contractor is to install a 42 space 4 wire 225 amp 208 Volt ac 60 HZ breaker panel in the basement area by crawl space. The power is to be ran from room BC–116 the contractor shall find and procure a suitable 300 amp breaker for the switch gear and install The contractor shall make the connection according NEC in conduit and copper wire. From equipment to the breaker panel the contractor shall use solid number 12 THHN copper wire to each sump pump and dehumidifier in crawlspace of building 21. The wire will be encased in three–quarter inch EMT pipe with compression fittings installation and will include hangers and breakers were necessary according to the NEC. This will be connected to the new power panel in the basement adjacent to the crawl space.

Contractor to provide breakers for the equipment and main switch gear breaker.

The contractor is to provide the Monitoring device The Santa Fe # 4026208 or equivalent.



GROUND FLOOR NORTH END OF BUILDING 21

Revision	Date

RECOMMEND APPROVAL

REQUESTER	Date		
CHIEF OF SERVICE	Date	CHIEF OF STAFF	Date
ASSOC. DIR. PATIENT CARE SVC.	Date	ASSOC. DIR. for OPERATIONS	Date
APPROVAL BY: MEDICAL CENTER DIRECTOR			Date

Drawing Title: ELECTRICAL

Approved: Safety Manager/M&O Supervisor

Approved:Chief of Facilities Management Svr.

Project Title: BUILDING 21 CRAWL SPACE DRYING PROJECT

Building Number: 21 | Checked | Drawn: NEJ

Location: W.G.(Bill) Hefner Medical Center, 1601 Brenner Ave., Salisbury NC 28144

Date: 24 Jul 2012

Project No.: 659-12-240 D/B

DRAWING NO. E-100

DWG. 4 OF 4

Office of Facilities

Department of Veterans Affairs